REMARKS

Applicant has amended the Claims 1, 2, and 3 and cancelled the Claims 4 and 5 without prejudice. Applicant respectfully submits these amendments to the claims are supported by the application as originally filed and do not contain any new matter. Therefore, the Office Action will be discussed in terms of the claims as amended.

The Examiner has objected to the specification as failing to provide proper antecedent basis for the claimed subject matter and particularly states that there is no support for the term "MAP" in the original disclosure.

In reply thereto, Applicant directs the Examiner's attention to the second embodiment beginning at page 8, and particularly to page 21, lines 12-20, and the figures 11 and 12. In view of the amendments to the claims and this description and figures, Applicant respectfully submits that there is now proper antecedent basis for the claimed subject matter.

The Examiner has rejected the Claims 2-5 under 35 U.S.C. 112, first paragraph, as failing to provide an enabling description. In reply thereto, Applicant has amended the Claims 2 and 3 and cancelled the Claims 4 and 5 without prejudice and respectfully submits that the Claims 2 and 3 comply with the requirements of 35 U.S.C. 112, second paragraph.

The Examiner has objected to the Claims 1-5 as being difficult to understand. Applicant has amended the claims and respectfully submits that the Claims 1-3 are now clear and distinct, and respectfully requests that the Examiner withdraw his objection.

The Examiner has rejected the Claims 1 and 2 under 35 U.S.C. 102 as being anticipated by Matsugu, stating that Matsugu teaches a method for identifying an object that uses a density difference between a background image and an object image in a picture and the method comprises the steps of arranging a Standard Object image on a picture in which an arrangement point, which is an arbitrary point on said picture that shows a background image, is used as a reference point, determining a normal vector group on outline portions of said Standard Object image based upon density difference in said background image and said standard object image, determining an angle information of respective normal vectors and determining a position information from said arrangement point to said respective normal vectors of said normal vector group, storing said position information and angle information as standard data for said arrangement point, determining for a picture that shows an object to be recognized, a normal

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vector group on outline portions of said object image based upon density different in said object image and a background image, determining a plurality of Answer point groups, that correspond to said arrangement points, from said normal vector group based upon said standard data and evaluating a focus point region formed by said Answer point group.

In reply thereto, Applicant would like to first describe Applicant's invention in which the object to be detected is a person or human being. In Applicant's invention, when a person is imaged by a video camera, as long as the installation position of the camera is fixed, people are imaged generally the same as figures. If the camera is installed in the ceiling, then the heads and bodies are imaged. The shape of each person is, in Applicant's invention, shown by the outline only and each pixel of the outline is shown as relative positions from a representative point on the outline. This is defined in Applicant's invention as the Standard Object. The relative position information for each normal line direction with respect to the outline of which brightness varies is stored in each pixel to thereby store the standard object. Next, an image for which actual recognition is to be made is inputted. When the normal line vector is detected on each pixel, such vectors are collected with respect to the stored relative positions and used to create the MAP screens. The resulted collection screens are evaluated, and the degree of coincidence between the position of a person and the Standard Object is judged.

As a result, conceptually in Applicant's invention, the shape of the outline of the outer shape of an object to be detected is collected to one focal point and the position of the focal point is the arrangement point of the standard object. Accordingly, even though a part of the shape of the outline is the same as a background, accurate detection can be accomplished even though the degree of coincidence may be slightly less than 100 percent. In addition, even though an image is taken obliquely, and there is another person behind, as long as about half the outline of an object person is seen, accurate detection can be accomplished. Still further, in Applicant's invention, the shape of a person that is observed actually is slightly different from the standard object and as a result is distributed near the focal point (MAP image).

With the above in mind, Applicant has carefully reviewed Matsugu and respectfully submits that Matsugu is used to cut out the outline of an object. However, in Applicant's invention, it is a premise that an object has an outline of the standard object and the degree of coincidence of the outline of the object with the Standard Object is calculated. From this

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calculation, a judgment is made if it corresponds to the Standard Object or not.

In addition to the above, Applicant respectfully submits that Matsugu and Applicant's invention differ from each other in several manners as set forth below:

1.   In Applicant's invention, when images having density differences are processed, the difference in brightness is always used and whether or not the background is similar or the texture of the background is similar is not an important issue. In contrast thereto, in Matsugu, while the background brightness may be used, it must be similar or the texture of the background must be similar.

2.   In Applicant's invention, a standard outer shape of the Standard Object to be recognized is pre-stored and recognition of the object based upon the pre-stored standard outer shape of the Standard Object is made without instructions by the operator; whereas in Matsugu, since recognition is made in accordance with instructions from an operator, no standard object is required.

3.   Each threshold point in Matsugu is the point which is obtained by substantially equally dividing the outline of the object that is designated by an operator. In other words, in Matsugu, the threshold point is defined by an operator as an outside region. Still further, in Matsugu, the point similar to the threshold point is expanded so as to separate the outer regions and the inner regions.

4.   In Applicant's invention, an arrangement point is used which allows the device to determine where the person is. Even though ten or more people are shown on the screen, the device of Applicant's invention determines how many people are there at particular locations by the arrangement point. As a result, when, within the detection screen, there are density differences and normal line vectors are detected, if it is a part of a person to be detected, then the person to be detected is at a location of relative distance up to the arrangement point.

5.   In Matsugu, the images are saved per se. In contrast thereto, in Applicant's invention, the distances between the arrangement point and the outline and the direction of the normal line of the outline at that point are stored, and there is no relationship with the data.

6.   In Matsugu, confirmation is made whether or not the texture is similar. In contrast thereto, in Applicant's invention, with the normal line vector on the outline, it is possible to recognize at which location the object is located and evaluation is made on the focal point

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region which is formed from the Answer point group. Since values are indicative of the degree of coincidence with the Standard Object, if the degree of coincidence with the Standard Object is 30 percent or less, than the object is not recognized as a human being.

7.   Applicant respectfully submits that Matsugu does not disclose dividing the Standard Object into two or more parts and merely shows three different methods that provide initial values. In contrast thereto, in Applicant's invention, if a human is a target of detection, then a division is made so that the object for which two portions (head and body) are detected simultaneously it is determined as a human.

In view of the above, therefore, Applicant respectfully submits that Matsugu does not disclose each and every element of Applicant's invention and the Claims 1 and 2 are not anticipated thereby.

As to Claim 3, the Examiner has indicated that he has found no prior art which teaches the claimed limitation and therefore Applicant assumes that Claim 3 contains allowable subject matter.

Applicant further respectfully and retroactively requests a three-month extension of time to respond to the Office Action, and respectfully requests that the three-month extension fee in the amount of $510.00 be charged to KODA & ANDROLIA DEPOSIT A CCOUNT NO. 11-1445.
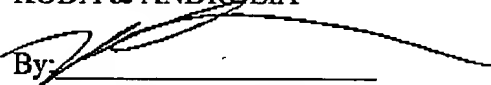
In view of the above, it is respectfully requested In view of the above, therefore, Applicant respectfully requests that this Amendment be entered, favorably considered and the case passed to issue.

Please charge any additional costs incurred by or in order to implement this Amendment or required by any requests for extensions of time to KODA & ANDROLIA DEPOSIT ACCOUNT NO. 11-1445.

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Respectfully submitted,

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I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office Fax No. (703) 872-9306 on March 7, 2005.

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Name

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